## IN THE CLAIMS

Please amend the claims as follows:

87. (currently amended) A method of producing an isolated, differentiated, mononuclear cell from human umbilical cord blood, comprising:

(a) obtaining a cord blood fraction comprising mononuclear cells from said umbilical cord blood, wherein the mononuclear cells comprise progenitor cells;

(b) growing said cord blood from step (a) in serum-free medium comprising EGF and bFGF; and

(c) culturing the cells of step (b) in a culture medium containing an effective amount of a differentiation agent for a period sufficient to differentiate the progenitor cell to a cell of interest, wherein the differentiation agent ~~includes~~ comprises retinoic acid and another agent selected from the group BDNF, NGF, and GDNF ~~EGF and bFGF~~, whereby ~~wherein~~ the cell of interest exhibits both an increase in the expression of genes associated with neurogenesis and a decrease in the expression of genes associated with hematopoiesis in comparison to an umbilical cord blood progenitor cell that has not been cultured in the presence of the differentiation agent.

Claims 88 and 89 (cancelled)

90. (currently amended) The method of claim 879, wherein retinoic acid is selected from the group consisting of 9-cis retinoic acid, all transretinoic acid and a mixture thereof.

93. (previously amended) The method of Claim 98, wherein the progenitor cells are isolated from the mononuclear cells prior to step (b):

94. (previously amended) The method of claim 93, wherein the progenitor cells are isolated from the mononuclear cells using a magnetic cell separator to separate out cells expressing a particular CD marker.

95. (previously amended) The method of claim 94, wherein the progenitor cells do not express CD34.

96. (previously presented) The method of Claim 87, wherein the mononuclear cells of step (a) are first subjected to an amount of an anti-proliferative agent effective to eliminate essentially all proliferating cells from the mononuclear cells, and subsequently exposed to a mitogen prior to step (b).

97. (previously presented) The method of Claim 96, wherein the anti-proliferative agent is Ara-C.

98. (previously presented) The method of Claim 96, wherein the mitogen is selected from the group consisting of epidermal growth factor and pokeweed mitogen.

Claims 99-123 (Canceled)